Drug Eluting Stents

CRT-604

Efficacy and Safety of Drug Eluting Stents in the Real World: 8 Year Follow Up

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Introduction: Drug eluting stents have been used in daily practice since 2002, with clear advantage in reducing the risk of target vessel revascularization, with the impressive reduction of 50% to 70% in restenosis rate. However, the occurrence of late thrombosis could compromise results in the long term, especially if the risk of this event were sustained over the years. In this context, the registry of clinical practice gains special value.
Objective: Evaluation of efficacy and safety of drug-eluting stents in the real world.
Methods: We report the findings of all patients that underwent percutaneous coronary intervention with a drug eluting stent in the period from January 2002 to April 2007, and followed up for 8 years. Drug eluting stents were used in accordance with the clinical and interventional cardiologist decision and availability of the stent.
Results: A total of 611 patients were included, with clinical follow-up obtained for 96.2% up to 8 years. Total mortality was 8,7%. Non-fatal infarction occurred in 4.3 % of the cases. Target vessel revascularization was 12.4% and the target lesion revascularization 8%. The rate of stent thrombosis was 2.1%. There were no new episodes of stent thrombosis after the fifth year of follow-up. Comparative subanalysis showed no outcome differences between the stents Cypher, Taxus and Endeavor.
Conclusion: These findings indicate that drug eluting stents remain safe and effective at very long term follow-up. Patients in the "real world" may benefit from drug eluting stenting with excellent results in the long-term.

CRT-605*

Everolimus Eluting Bioresorbable Vascular Scaffolds for Treatment of Patients Presenting with ST-Segment Elevation Myocardial Infarction, BVS STEMI FIRST Study

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Aims: We evaluated the, feasibility and the acute performance of the bioresorbable vascular scaffolds (BVS) for treatment of patients presenting with ST-segment elevation myocardial infarction (STEMI).
Methods and Results: The present investigation is a prospective, single-arm, single-centre study, reporting data after BVS implantation in STEMI patients. Quantitative coronary angiography and optical coherence tomography (OCT) data were evaluated. Clinical outcomes are reported at 6 months follow-up. The intent-to-treat population comprises a total of 49 patients. The procedural success was 97.9%. Pre-procedure TIMI-flow was 0 in 50.0% of the patients; after BVS implantation a TIMI-flow III was achieved in 91.7% of patients and the post-procedure percentage diameter stenosis was 14.7 ± 8.2%. No patients had angiographically visible residual thrombus at the end of the procedure. OCT analysis performed in 31 patients, showing that the mean lumen area was 8.02±1.92 mm^2, minimum lumen area 5.95±1.61 mm^2, mean incomplete scaffold apposition area 0.118±0.162 mm^2, mean intraluminal defect area 0.013±0.017 mm^2, mean percentage malapposed struts per patient 2.80±3.90%. Scaffolds with >5% malapposed struts were 7. Six months follow-up will be available in Feb 2014.
Conclusion: a. : In the present series the BVS implantation in patients presenting with acute myocardial infarction appeared feasible, with high rate of final TIMI-flow III and good acute scaffold apposition on OCT. Medium term follow-up data will be presented at CRT.

Renal Denervation

CRT-606

Arterial Stiffness as an Early Marker of Renal Sympathetic Denervation Effectiveness

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Background: Renal sympathetic denervation (RSD) has been reported to reduce blood pressure in patients with resistant arterial hypertension, although it takes time before noticeable changes after the procedure occur. There are several reports on late changes in arterial stiffness after RSD. We have investigated early and late changes in arterial stiffness after denervation searching for the markers of RSD effectiveness.
Methods: We have evaluated 20 patients with resistant arterial hypertension (age 56.2±7.4 years, 11 male, 9 female, mean 24-hour ambulatory blood pressure (BP) - 160/96±19/16 mm Hg, using 6.1±1.1 antihypertensive drugs), who underwent bilateral RSD. Arterial stiffness parameters were measured before the procedure, during the first 48 hours after RSD and, subsequently, after 1, 3 and 6 months.
Results: During the first 48 hours after RSD, a significant reduction in peripheral BP from 182/107±28/19 to 163/95±17/11 mmHg (p=0.003), and mean arterial pressure (MAP) from 135±23 to 116±13 mmHg (p=0.0003) was observed. RSD significantly reduced carotid-femoral pulse wave velocity (PWV) during the first 48 hours from 11.2±2.9 to 9.7±2.1 m/s (p=0.0004) and carotid-radial PWV from 10.3±2.4 to 8.8±1.4 (p=0.008). Analysis of variance revealed the MAP independent improvement of PWV during 48 hours after RSD (r=-0.07, p=0.8). Furthermore, a substantial decrease in carotid-femoral PWV has been recorded at 1, 3 and 6 months, 9.5±2.3 (p<0.001), 9.41±2.78 (p=0.006) and 8.94±2.03 (p<0.001), respectively. In addition, reduction in carotid-radial PWV sustained at 1, 3 and 6 months, 9.24±1.33 (p=0.051), 8.99±1.65 (p=0.063) and 8.67±1.20 (p=0.007), respectively.
Conclusion: Changes in arterial stiffness occur early after RSD. During the first 48 hours after the procedure, a significant reduction of arterial stiffness parameters, which remained at 1, 3 and 6 months have been noted. RSD effects on PWV were independent from blood pressure changes.

CRT-607*

Renal Denervation with a Percutaneous Bipolar Radiofrequency Balloon Catheter in Patients with Resistant Hypertension: Efficacy and Safety Results From the REDUCE-HTN Trial

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Background: The Vessix Renal Denervation System (Boston Scientific, Natick, MA) consists of a radiofrequency generator and a balloon catheter mounted with a bipolar radiofrequency electrode array. The objective of the REDUCE-HTN Clinical Study is to evaluate the performance of the Vessix System in treating medication-resistant hypertension.

**Indicates iMPACT Trial Accepted for Oral Presentation*